



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 18, 2011

Mr. Kenneth Whitham
Facilities License Manager
Department of Energy, Idaho Operations Office
1955 Fremont Avenue
Idaho Falls, ID 83415

SUBJECT: MATERIALS LICENSE SNM-2504 FOR THE FORT ST. VRAIN INDEPENDENT
SPENT FUEL STORAGE INSTALLATION

Dear Mr. Whitham:

As requested by your application dated November 10, 2009, enclosed is Materials License No. SNM-2504 issued pursuant to 10 CFR Part 72. This license constitutes authorization for a 20-year extension to possess, store, and transfer spent fuel into the Fort St. Vrain Independent Spent Fuel Storage Installation (ISFSI) in Weld County, Colorado.

In connection with the issuance of the license, an Environmental Assessment and Finding of No Significant Impact was noticed in the Federal Register on May 25, 2011 (76 FR 30397). The staff's Safety Evaluation Report for the Fort St. Vrain ISFSI is enclosed. Also enclosed is a copy of the Notice of Issuance which has been transmitted to the Office of the Federal Register for publication.

If you have any questions regarding this renewed license, please contact me at (301) 492-3297, or Chris Staab of my staff at (301) 492-3321.

Sincerely,

A handwritten signature in cursive script, reading "M D Waters", is written over a horizontal line.

Michael D. Waters, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket: 72-9
TAC No: L24396

Enclosures: 1. Materials License SNM-2504
2. Safety Evaluation Report
3. Federal Register Notice of Issuance

cc w/o Enclosures: Service List

LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Part 72, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, and possess the power reactor spent fuel and other radioactive materials associated with spent fuel storage designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified herein.

Licensee 1. Department of Energy	3. License No. SNM-2504 Amendment No.
2. 850 Energy Drive Idaho Falls, Idaho 83401-1563	4. Expiration Date November 30, 2031 5. Docket or Reference No. 72-9
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical or Physical Form
8. Maximum Amount That Licensee May Possess at Any One Time Under This License	

A. Fuel elements from Fort St. Vrain (FSV) Nuclear Generating Station using thorium and uranium enriched to not greater than 93.15% in the U-235 isotope

B. Transuranium elements, source material, byproduct material, and associated radioactive material related to receipt, storage, and transfer of fuel elements

C. Byproduct and special nuclear material related to receipt, storage, and transfer of fuel elements

A. Irradiated TRISO coated (Th, U)C₂ fuel particles inside graphite fuel elements

B. Irradiated fuel elements, contaminated ISFSI equipment (e.g., fuel storage containers, container handling machine, standby storage wells), depleted uranium shielding materials, and low-level radioactive waste related to receipt, storage, and transfer of fuel elements

C. As calibration discs or sealed sources, without restriction to chemical or physical form, for sample analysis and instrument calibration

A. 1036 Kg uranium and 14,540 Kg thorium initially contained in 1,482 irradiated HTGR fuel elements

B. Quantity contained in 1,482 irradiated HTGR fuel elements, 270 contaminated fuel storage containers, 1 contaminated container handling machine, 3 contaminated storage wells, 3 depleted uranium shielding components of transfer casks, and low-level radioactive waste related to receipt, storage, and transfer of fuel elements

C. Radioactive sources used for sample analysis and instrument calibration

9. Authorized Use: For use in accordance with statements, representations, and the conditions of the Technical Specifications and Safety Analysis Report (SAR) dated December 17, 1996, and supplements dated February 4, February 5, February 18, March 12, March 24, April 2, April 16, April 29, December 10, and December 18, 1997; and February 6, April 7, July 2, July 20, August 24, October 2, October 16 (two letters), November 16, November 19 (two letters), December 1, December 9, and December 24, 1998; and April 27, May 5, May 12, May 13, October 19, and November 24, 1999; and January 18, 2000; and May 24, 2001; November 10, 2009; June 9, 2010; July 30, 2010; September 7, 2010;

NRC FORM 588A (10-2000) 10 CFR 72 LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE SUPPLEMENTARY SHEET	U. S. NUCLEAR REGULATORY COMMISSION		PAGE 2 OF 3 PAGES	
	License No.	Amendment No.		
	SNM-2504		Docket or Reference No. 72-9	

November 9, 2010; November 30, 2010; December 23, 2010, and July 18, 2011.

The material identified in 6.A, 6.B, 7.A, and 7.B above must be related to spent fuel storage and is authorized for receipt, possession, storage, and transfer. Material identified in 6.C and 7.C above shall be related to spent fuel storage, and is authorized for receipt, possession, storage, transfer, and use.

10. Authorized Place of Use: The licensed material is to be received, possessed, transferred, and stored at the FSV Independent Spent Fuel Storage Installation (ISFSI) located in Platteville, Colorado, as described in the Safety Analysis Report.
11. The Technical Specifications contained in Appendix A attached hereto are incorporated into the license. The licensee shall operate the installation in accordance with the Technical Specifications in Appendix A.
12. The licensee shall follow the physical protection plan entitled "DOE-ID Independent Spent Fuel Storage Installation Security Plan," dated October 9, 1998, with subsequent modifications dated December 1, 1998, April 27, 1999, and May 24, 2001, and as it may be further amended under the provisions of 10 CFR Parts 72.44(e) and 72.186(b).
13. The repackaging of fuel assemblies is not authorized.
14. For the duration of the license, the licensee shall inform the Director, Office of Nuclear Material Safety and Safeguards, at least 90 days in advance, of the planned replacement of the entity contracted by DOE-ID to perform the management and operation (the M&O contractor) of the FSV ISFSI.

Within 180 days after the replacement of the M&O contractor, the licensee shall assess the performance of the M&O contractor and provide a statement to the NRC verifying that the replacement of the M&O contractor has had no effect on the execution of licensed responsibilities for the FSV ISFSI.
15. DOE shall be responsible for requesting necessary funds from Congress to ensure compliance of FSV operations and decommissioning under this license. DOE will notify the NRC, in writing, of any anticipated or forecasted budget shortfalls, as soon as they are known, along with a plan detailing the specific measures that will be taken by DOE to obtain the required funding and prevent adverse impacts on ISFSI operations.
16. This license is effective as of the date of issuance shown below.

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LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE
SUPPLEMENTARY SHEET

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Michael D. Waters, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards
Washington, DC 20555

Date of Issuance: November 4, 1991
License Renewal dated: July 18, 2011
Attachment: Appendix A

APPENDIX A

TECHNICAL SPECIFICATIONS

FOR THE

FORT ST. VRAIN

INDEPENDENT SPENT FUEL STORAGE INSTALLATION

SNM-2504

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1.0 USE AND APPLICATION

1.1 Definitions

NOTE

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

<u>Term</u>	<u>Definition</u>
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
CONTAINER HANDLING MACHINE (CHM)	The CONTAINER HANDLING MACHINE is used to contain and transfer a FSC or an Individual Fuel Element between storage positions or to a transport cask.
FUEL STORAGE CONTAINERS (FSC)	The FUEL STORAGE CONTAINERS are used to contain the spent fuel stored within the MVDS and transported from the MVDS.
HANDLING OPERATIONS	HANDLING OPERATIONS includes all licensed activities on a FSC containing spent fuel while the FSC is not within an approved storage position within the MVDS.
INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)	The facilities within the 100 meter perimeter around the MVDS licensed for the storage of spent fuel.
MODULAR VAULT DRY STORE (MVDS)	The MODULAR VAULT DRY STORE is the system used to store, handle, sample, and leak check the FSCs.
OPERABLE-OPERABILITY	A system, subsystem, division, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, division, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).
STORAGE OPERATIONS	STORAGE OPERATIONS include all licensed activities performed at the ISFSI while spent fuel is contained within one of the six modular dry vaults or within one of the three storage wells within the MVDS.
STORAGE WELL	One of three positions approved for storage of an FSC, including a leaking FSC. These positions are north of the six vaults.

1.0 USE AND APPLICATION

1.2 Logical Connectors

PURPOSE	<p>The purpose of this section is to explain the meaning of logical connectors.</p> <p>Logical connectors are used in Technical Specifications (TS) to discriminate between, and yet connect, discrete Conditions, Required Actions, Completion Times, Surveillances, and Frequencies. The only logical connectors that appear in TS are <u>AND</u> and <u>OR</u>. The physical arrangement of these connectors constitutes logical conventions with specific meanings.</p>
BACKGROUND	<p>Several levels of logic may be used to state Required Actions. These levels are identified by the placement (or nesting) of the logical connectors and by the number assigned to each Required Action. The first level of logic is identified by the first digit of the number assigned to a Required Action and the placement of the logical connector in the first level of nesting (i.e., left justified with the number of the Required Action). The successive levels of logic are identified by additional digits of the Required Action number and by successive indentions of the logical connectors.</p> <p>When logical connectors are used to state a Condition, Completion Time, Surveillance, or Frequency, only the first level of logic is used, and the logical connector is left justified with the statement of the Condition, Completion Time, Surveillance, or Frequency.</p>
EXAMPLES	<p>The following examples illustrate the use of logical connectors.</p>

1.2 Logical Connectors

EXAMPLES (continued)

EXAMPLE 1.2-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Verify . . . <u>AND</u> A.2 Restore . . .	

In this example the logical connector AND is used to indicate that when in Condition A, both Required Actions A.1 and A.2 must be completed.

1.2 Logical Connectors

EXAMPLES
(continued)

EXAMPLE 1.2-2

ACTIONS		
CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Trip . . . <u>OR</u> A.2.1 Verify . . . <u>AND</u> A.2.2.1 Reduce . . . <u>OR</u> A.2.2.2 Perform . . . <u>OR</u> A.3 Align . . .	

This example represents a more complicated use of logical connectors. Required Actions A.1, A.2, and A.3 are alternative choices, only one of which must be performed as indicated by the use of the logical connector OR and the left justified placement. Any one of these three Actions may be chosen. If A.2 is chosen, then both A.2.1 and A.2.2 must be performed as indicated by the logical connector AND. Required Action A.2.2 is met by performing A.2.2.1 or A.2.2.2. The indicated position of the logical connector OR indicates that A.2.2.1 and A.2.2.2 are alternative choices, only one of which must be performed.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the ISFSI. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).
DESCRIPTION	<p>The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the ISFSI is in a specified condition stated in the Applicability of the LCO. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the ISFSI is not within the LCO applicability.</p> <p>Once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will <u>not</u> result in separate entry into the Condition unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition.</p>

1.3 Completion Times

EXAMPLES The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLE 1.3-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Perform Action B.1	12 hours
	<u>AND</u> B.2 Perform Action B.2	36 hours

Condition B has two Required Actions. Each Required Action has its own separate Completion Time. Each Completion Time is referenced to the time that Condition B is entered.

The Required Actions of Condition B are to complete action B.1 within 12 hours AND complete action B.2 within 36 hours. A total of 12 hours is allowed for completing action B.1 and a total of 36 hours (not 48 hours) is allowed for completing action B.2 from the time that Condition B was entered. If action B.1 is completed within 6 hours, the time allowed for completing action B.2 is the next 30 hours because the total time allowed for completing action B.2 is 36 hours.

1.3 Completion Times

EXAMPLES
(continued)

EXAMPLE 1.3-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One system not within limit.	A.1 Restore system to within limit.	7 days
B. Required Action and associated Completion Time not met.	B.1 Complete action B.1	12 hours
	<u>AND</u> B.2 Complete action B.2	36 hours

When a system is determined to not meet the LCO, Condition A is entered. If the system is not restored within 7 days, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the system is restored after Condition B is entered, Condition A and B are exited, and therefore, the Required Actions of Condition B may be terminated.

1.3 Completion Times

EXAMPLES (continued)

EXAMPLE 1.3-3

ACTIONS

NOTE

Separate Condition entry is allowed for each component.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Restore compliance with LCO.	7 days
B. Required Action and associated Completion Time not met.	B.1 Complete action B.1	6 hours
	<u>AND</u> B.2 Complete action B.2	12 hours

The Note above the ACTIONS Table is a method of modifying how the Completion Time is tracked. If this method of modifying how the Completion Time is tracked was applicable only to a specific Condition, the Note would appear in that Condition rather than at the top of the ACTIONS Table.

The Note allows Condition A to be entered separately for each component, and Completion Times tracked on a per component basis. When a component is determined to not meet the LCO, Condition A is entered and its Completion Time starts. If subsequent components are determined to not meet the LCO, Condition A is entered for each component and separate Completion Times start and are tracked for each component.

1.3 Completion Times

**IMMEDIATE
COMPLETION TIME** When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.

1.0 USE AND APPLICATION

1.4 Frequency

PURPOSE	The purpose of this section is to define the proper use and application of Frequency requirements.
DESCRIPTION	<p>Each Surveillance Requirement (SR) has a specified Frequency in which the Surveillance must be met in order to meet the associated Limiting Condition for Operation (LCO). An understanding of the correct application of the specified Frequency is necessary for compliance with the SR.</p> <p>The "specified frequency" is referred to throughout this section and each of the Specifications of Section 3.0, Surveillance Requirement (SR) Applicability. The "specified Frequency" consists of the requirements of the Frequency column of each SR, as well as certain NOTES in the Surveillance column that modify performance requirements.</p> <p>Sometimes special situations dictate when the requirements of a Surveillance are to be met. They are "otherwise stated" conditions allowed by SR 3.0.1. They may be stated as clarifying Notes in the Surveillance, as part of the Surveillance, or both.</p> <p>Situations where a Surveillance could be required (i.e., its Frequency could expire), but where it is not possible or not desired that it be performed until sometime after the associated LCO is within its Applicability, represent potential SR 3.0.4 conflicts. To avoid these conflicts, the SR (i.e., the Surveillance or the Frequency) is stated such that it is only "required" when it can be and should be performed. With an SR satisfied, SR 3.0.4 imposes no restriction.</p> <p>The use of "met" or "performed" in these instances conveys specific meanings. A surveillance is "met" only when the acceptance criteria are satisfied. Known failure of the requirements of a Surveillance, even without a Surveillance specifically being "performed," constitutes a Surveillance not "met." "Performance" refers only to the requirement to specifically determine the ability</p>

1.4 Frequency

DESCRIPTION
(continued)

to meet the acceptance criteria. SR 3.0.4 restrictions would not apply if both the following conditions are satisfied.

- a. The Surveillance is not required to be performed, and
 - b. **The** Surveillance is not required to be met or, even if required to be met, is not known to be failed.
-

1.4 Frequency

EXAMPLES

The following examples illustrate the various ways that Frequencies are specified.

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify leak rate within limit.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the interval specified in the Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the facility is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the facility is in a condition specified in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified by a specific NOTE, then the LCO is not met in accordance with SR 3.0.1 and SR 3.0.3 becomes applicable.

If the interval as specified by SR 3.0.2 is exceeded while the facility is not in a condition specified in the Applicability of the LCO for which performance of the SR is required, the Surveillance must be performed within the Frequency requirements of SR 3.0.2 prior to entry into the specified condition. Failure to do so would result in a violation of SR 3.0.4.

1.4 Frequency
EXAMPLES
(continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours prior to starting activity <u>AND</u> 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time the example activity is to be performed, the Surveillance must be performed within 12 hours prior to starting the activity.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the extension allowed by SR 3.0.2.

"Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "once" performed in this example). If the specified activity is canceled or not performed, the measurement of both intervals stops. New intervals start upon preparing to restart the specified activity.

2.0 FUNCTIONAL AND OPERATING LIMITS

2.1 Functional and Operating Limits

2.1.1 Spent Fuel Elements Stored At ISFSI

The spent nuclear fuel to be stored in FSCs at the Fort St. Vrain ISFSI shall meet the following requirement:

The fuel elements stored at the ISFSI shall be only those within the facility as of February 9, 1996, as specified in the Contract No. DE-AC07-96ID13425 between the United States Department of Energy (DOE) and the Public Service Company of Colorado (PSC). No other spent fuel shall be received and stored in the MVDS.

2.2 Functional and Operating Limit Violations

If any Functional and Operating Limit is violated, the following actions shall be completed:

- 2.2.1 The affected spent fuel shall be placed in a safe condition.
 - 2.2.2 Within 24 hours, notify the NRC Operations Center.
 - 2.2.3 Within 30 days, submit a special report which describes the cause of the violation and actions taken to restore compliance and prevent recurrence.
-

3.0 LIMITING CONDITIONS FOR OPERATION (LCO) APPLICABILITY

LCO 3.0.1	LCOs shall be met during specified conditions in the Applicability, except as provided in LCO 3.0.2.
LCO 3.0.2	<p>Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5.</p> <p>If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required, unless otherwise stated.</p>
LCO 3.0.3	Not applicable to an ISFSI.
LCO 3.0.4	When an LCO is not met, entry into a specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in specified conditions in the Applicability that are required to comply with ACTIONS.
LCO 3.0.5	Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.
LCO 3.0.6	Not applicable to an ISFSI.
LCO 3.0.7	Not applicable to an ISFSI.

3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

SR 3.0.1 SRs shall be met during the specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on equipment or variables outside specified limits.

SR 3.0.2 The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the frequency is met.

For Frequencies specified as "once," the above interval extension does not apply. If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is less. This delay period is permitted to allow performance of the Surveillance.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

3.0 SR APPLICABILITY

SR 3.0.4 Entry into a specified condition in the Applicability of an LCO shall not be made unless the LCO's Surveillances have been met within their specified Frequency. This provision shall not prevent entry into specified conditions in the Applicability that are required to comply with ACTIONS.

3.1 MVDS Cooling System

3.1.1 MVDS Cooling Inlet and Outlet

LCO 3.1.1 Blockage of the cooling inlet or outlet protective mesh screen areas shall not exceed 50 percent of either mesh screen area.

APPLICABILITY: During STORAGE OPERATIONS.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Blockage of cooling inlet or outlet screen area exceeds 50 percent but is less than 95 percent	A.1 Clear the blockage	7 days
B. Blockage of cooling inlet or outlet screen area equals 95 percent or more	B.1 Clear the blockage	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.1.1 Perform a visual inspection of the cooling inlet and outlet screens.	7 days

3.2 Container Handling Machine

3.2.1 Container Handling Machine

LCO 3.2.1 The CHM shall be fully operable.

APPLICABILITY: During HANDLING OPERATIONS.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CHM not fully operable	A.1 Place any contained spent fuel in the nearest safe storage location.	Immediately.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.1.1 Visually inspect the CHM raise/lower mechanism components.	Within 31 days prior to commencing HANDLING OPERATIONS <u>AND</u> 31 days during HANDLING OPERATIONS
SR 3.2.1.2 Functionally test the charge face isolation valves, the CHM isolation valve, and all CHM control interlocks.	Within 31 days prior to commencing HANDLING OPERATIONS <u>AND</u> 12 months during HANDLING OPERATIONS

3.2 Container Handling Machine

3.2.2 Container Handling Machine Lifting Height

LCO 3.2.2 The MVDS Crane Hoist lift limits shall be operable:

APPLICABILITY: During STORAGE OPERATIONS and HANDLING OPERATIONS.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. The MVDS Crane Hoist lifts the CHM above 3.5"	A.1 Lower CHM to the floor.	Immediately.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.2.1 Visually inspect the MVDS Crane Hoist dead stop device.	12 months
SR 3.2.2.2 Functionally test the MVDS Crane Hoist limit switch.	Within 31 days prior to lifting the CHM <u>AND</u> 31 days during CHM lifting operations

3.3 Fuel Storage Container

3.3.1 Seal Leak Rate

LCO 3.3.1 The FSC or storage well seal leakage rate shall not exceed
 1×10^{-3} standard cc/sec.

APPLICABILITY: During STORAGE OPERATIONS

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. If seal leak rate limit is exceeded for one or two FSCs (or storage wells)	A.1.1 Restore top seal integrity. <u>OR</u>	7 days
	A.1.2.1 Transfer the FSC to a storage well <u>AND</u>	7 days
	A.1.2.2 Verify integrity of storage well. <u>AND</u>	7 days
	A.2 Perform leak test on two additional FSCs from each vault <u>AND</u>	30 days
	A.3 Submit report to NRC describing condition, results of engineering evaluations and actions being taken.	90 days
B. If seal leak rate limit is exceeded for three or more FSCs or storage wells	B.1 Notify NRC Operations Center	Within 24 hours of entry into CONDITION B

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.1.1 Leak test one FSC from each vault.	<div data-bbox="1156 331 1456 436">----- NOTE: SR 3.0.2 is not applicable -----</div> <div data-bbox="1156 478 1456 520">5 years.</div>

3.3 Fuel Storage Container

3.3.2 FSC Low Temperature

LCO 3.3.2 The ambient air temperature shall not be less than 12 degrees F

APPLICABILITY: During HANDLING OPERATIONS.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Ambient air temperature less than limit.	A.1 Place FSC in safe condition	Immediately
	<u>AND</u> A.2 Suspend further Handling Operations	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.2.1 Verify ambient air temperature within limits	<p>Within 8 hours prior to lifting an FSC containing spent fuel.</p> <p><u>AND</u></p> <p>Immediately prior to each movement of a FSC loaded with spent fuel into or out of the CHM.</p>

4.0 DESIGN FEATURES

4.1 Site

4.1.1 Site Location

The FSV ISFSI is located on part of the original FSV Nuclear Generating Station site, approximately 1500 feet northeast of the fossil-fueled, power plant building, which is about three and one-half miles northwest of Platteville, CO. Platteville is located in Weld County and is about 35 miles north of Denver. The nearest boundaries of Longmont, Greeley, and Loveland are all about 14 miles from the ISFSI location.

4.2 Storage Features

4.2.1 Fuel Storage Canister

The FSV ISFSI is licensed to store spent fuel in the Fuel Storage Canisters within the MVDS. The FSCs shall be constructed of carbon steel with a coating of aluminum applied to the outer surface. Each FSC can store up to six fuel elements. The fuel storage environment is air. Each FSC is stored in a storage position within the six MVDS vaults or within one of the three storage wells.

4.2.2 Modular Vault Dry Store

The MVDS structure is reinforced concrete, with three storage wells, six vaults, and a Transfer Cask Reception Bay. Each vault holds up to 45 FSCs, with the FSC storage array determined by a Charge Face Structure at the top of the FSCs and by vault module floor supports at the bottom of the FSCs.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

- 5.1.1 The Manager, DOE Idaho Operations Office (DOE-ID), is responsible for the operation of the FSV ISFSI and for compliance with all applicable regulatory requirements and license conditions.
 - 5.1.2 The Facility Director is responsible for overall ISFSI operation. The Facility Director and any alternates shall be designated in writing.
 - 5.1.3 Although not in residence at the FSV ISFSI, the Facility Director shall maintain routine electronic and verbal communication with the facility staff.
 - 5.1.4 The Facility Director shall be present during significant operational or maintenance evolutions, emergency exercises, and announced NRC inspections. During prolonged evolutions, the Facility Director shall be present during initial activities and at least monthly thereafter.
 - 5.1.5 The Facility Director shall visit the FSV ISFSI at least twice a year for the purpose of verification or audit of FSV ISFSI compliance with regulatory requirements and licensing basis commitments, to communicate and interface in person with facility staff and to appraise DOE-ID management of FSV ISFSI status based on observations.
 - 5.1.6 The Facility Director shall review and concur with all FSV ISFSI evaluations prepared pursuant to 10 CFR 72.44(e), 10 CFR 72.44(f), 10 CFR 72.48, TS 5.5.1.b, TS 5.5.2.3, and TS 5.5.3.2.
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5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

5.2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for facility operation and support services, respectively. The onsite and offsite organizations shall include the positions for activities affecting safety of the ISFSI.

1. Lines of authority, responsibility, and communication shall be defined and established throughout the organization, from senior management levels to all operational and support positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key positions, or in equivalent forms of documentation. These requirements, including the facility-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented in the Safety Analysis Report;
 2. The responsible Department executive, as delegated by the Energy Secretary, shall have Department responsibility for overall facility nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the facility to ensure nuclear safety; and
 3. The individuals who perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressures.
 4. The Safety Review Committee shall provide oversight of FSV ISFSI operation by performing reviews of:
 - a. Performance indicators (audit findings, reportable events and conditions, Technical Specification violations);
 - b. Evaluations performed pursuant to 10 CFR 72.44(e), 10 CFR 44(f), 10 CFR 72.48, TS 3.3.1(A)(3), TS 5.5.1.b, TS 5.5.2.3, and TS 5.5.3.2;
 - c. Proposed license amendments;
 - d. Selected activities of the ALARA committee and the staff level document review committee;
 - e. Preparation for major operations (such as defueling) for potential safety hazards; and
 - f. Special reviews at the direction of the Facility Director.
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The Safety Review Committee members and chair shall be appointed in writing. The Facility Director shall be informed of all appointments to the Safety Review Committee

The Safety Review Committee membership shall represent the following disciplines: Radiological Safety, Criticality Safety, Nuclear Facility Operation, Nuclear Quality Assurance, and Engineering.

A quorum for a Safety Review Committee meeting shall include a minimum of three committee members including members representing the technical disciplines appropriate for matters under consideration. The Facility Director, acting in an ex-officio capacity, shall be present to constitute a quorum.

The Safety Review Committee shall meet at least once every twelve months and at least once not more than three months prior to the start of defueling operations.

5.0 ADMINISTRATIVE CONTROLS

5.3 Facility Staff Qualifications

5.3.1 Each member of the facility staff shall meet the minimum qualifications specified in the Safety Analysis Report.

Personnel who operate or supervise the operation of equipment identified as important to safety in the Safety Analysis Report shall be trained and certified under the NRC approved training program.

5.0 ADMINISTRATIVE CONTROLS

5.4 Procedures

5.4.1 Written procedures shall be established, implemented, and maintained for the following activities:

- a. Administrative controls;
- b. Routine ISFSI operations;
- c. Emergency response;
- d. Design Control;
- e. Facility changes, tests and experiments;
- f. Control of Surveillances and tests;
- g. Control of special processes;
- h. Maintenance;
- i. Health physics, including ALARA practices;
- j. Spent fuel management;
- k. Quality assurance inspection and audits;
- l. Physical protection;
- m. Records management
- n. Reporting; and
- o. All programs specified in Specification 5.5

Implementing procedures may be common with the Idaho National Engineering and Environmental Laboratory procedures provided that all ISFSI requirements are met.

5.4.2 The FSV Facility Director will ensure performance, and review the results of DOE-performed surveillances, assessments, or audits of changes to procedures described above. The DOE-ID QA manager is responsible to ensure audits of the Quality Assurance Program. Each area will be reviewed at least biennially.

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs

The following programs shall be established, implemented, and maintained.

5.5.1 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

- a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.
- b. Changes may be made to Bases without prior NRC approval provided the changes do not involve either of the following:
 - 1. A change in the TS incorporated in the license; or
 - 2. A change to the SAR or Bases which requires a license amendment according to the criteria of 10 CFR 72.48.
- c. The Bases Control Program shall contain provisions to ensure the Bases are maintained consistent with the SAR.
- d. Proposed changes which don't meet the criteria of 5.5.1.b above shall be reviewed and approved by the NRC before implementation. Changes to the Bases implemented which do not require prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 72.48(b)(2).

5.5.2 Essential Program Control Program

1. This program provides a means for processing changes to the following essential programs.
 - a. Quality Assurance Program
 - b. Radiological Environmental Monitoring Program
 - c. Training Program
2. Changes to essential programs shall be made under appropriate administrative controls and reviews.
3. The licensee may make changes to essential programs without prior NRC approval provided the changes do not involve either of the following:
 - a. A change in the Technical Specification incorporated in the license; or
 - b. A decrease in effectiveness.
4. The Essential Programs Change Control program shall contain provisions to ensure essential programs are maintained consistent with the regulations.
5. Proposed changes to essential programs which don't meet the criteria of 5.5.2.3 above shall be reviewed and approved by the NRC before implementation.
6. Changes to essential program implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 72.70(b).
7. DOE will review and approve all submittals to the NRC made pursuant to TS 5.5.2.5 and TS 5.5.2.6.

5.5 Programs

5.5.3 Natural Gas and Oil Monitoring Program

This program provides a means for monitoring the development of natural gas and oil infrastructure and assessing the risk that such development poses to the FSV ISFSI.

1. The licensee shall establish and maintain a database of all natural gas and oil infrastructure within one-half mile of the FSV ISFSI.
2. The database shall include an analysis of the hazard posed by failure of individual infrastructure components (such as gas well, collector pipes, transmission pipelines, or feeder pipes). Such analysis may be a quantitative evaluation of the effect of postulated failures on the MVDS or may be a qualitative comparison to the hazard analysis of bounding cases provided by the safety analyses supporting the initial issuance of and Amendment No. 1 to Materials License SNM-2504.
3. The licensee shall ensure that the database is updated at least once every six months.
4. For any new natural gas or oil infrastructure planned or completed installation within one-half mile of the ISFSI, the licensee shall submit a report describing the new infrastructure and a summary of the hazard analysis to the NRC Document Control Desk with a copy to the Director, Office of Nuclear Material Safety and Safeguards and the Regional Administrator, NRC Region IV:
 - a. within 60 days of identifying the new infrastructure if that new infrastructure poses a hazard which exceeds that analyzed in the initial issuance of and Amendment No. 1 to Materials Licence SNM-2504, or
 - b. with the periodic SAR update if the new infrastructure poses a hazard bounded by that analyzed in the initial issuance of and Amendment No. 1 to Materials License SNM-2504.

5.5 Programs

5.5.4 Radioactive Effluent Control Program

This program implements the requirements of 10 CFR 72.44(d)

- a. The FSV ISFSI does not create any new radioactive materials or have any radioactive waste treatment system. Some low level radioactive waste may be created during the course of periodic maintenance and surveillance activity or during future defueling operations as authorized by Condition 7B of this license. Procedures for the control of radioactive waste shall be developed and implemented.

In addition to the procedural controls for low level radioactive waste, Technical Specification 3.3.1, Seal Leak Rate, provide assurance that there are essentially no radioactive effluents from the FSV ISFSI.

- b. This program includes an environmental monitoring program as described in the FSV ISFSI Safety Analysis Report.
- c. An annual report shall be submitted pursuant to 10 CFR 72.44(d)(3) specifying the quantity of each of the principal radionuclides released to the environment in liquid and in gaseous effluents during the previous calendar year of operation. This report shall be submitted within 60 days after January 1 of each year.

5.5.5 Aging Management Program

This program provides a means for monitoring and mitigating potential aging effects of the modular vault system.

- a. The licensee shall establish and implement procedures for remote visual inspection of the FSC, SS, CFS underside (vault ceiling), and vault wall and floor surfaces for signs of degradation.
 - b. The licensee will repair and/or perform additional inspection of concrete and metal conditions exceeding second tier-criteria within the guidance of ACI 349.3R-02 or later editions.
 - c. The licensee will develop concrete inspector training and qualification program in accordance with ACI 349.3R-02 or later editions, prior to the next MVDS inspection in June 2014.
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5.0 ADMINISTRATIVE CONTROLS

5.6 REPORTING REQUIREMENTS

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- 5.6.1 All reports required by 10 CFR Part 72 for the FSV ISFSI and all reports required by the FSV ISFSI license and Technical Specifications, shall be submitted by the Manager of DOE-ID or the Facility Director.
- 5.6.2 All instances of noncompliance with the Limiting Conditions for Operation, Surveillance Requirements, Design Features or Administrative Controls contained within these Technical Specifications shall be reported in writing to the NRC Document Control Desk within 30 days of discovery of the non-compliance. Copies shall be provided to the Director, Office of Nuclear Material Safety and Safeguards and the Regional Administrator, NRC Region IV.
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